



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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January 14, 2010

Ref: 8EPR-EP

Walter Baker, Director
Division of Water Quality
Utah Department of Environmental Quality
288 N 1460 W
Salt Lake City, UT 84116-3231

Subject: Proposed Revisions to R317-1-1 and R317-2

Dear Mr. Baker:

This letter provides the comments of the U.S. EPA Region 8 Water Quality Unit (WQU) on the proposed revisions to R317-1-1 (Definitions) and R317-2 (Standards of Quality for Waters of the State). Our review addressed the proposal and supporting information included in the public notice of proposed rulemaking, which was published in the December 15, 2009 issue of the Utah State Bulletin (Volume 2009, No. 24). Please note that the positions described in our comments, regarding both existing and proposed water quality standards, are preliminary in nature and should not be interpreted as final decisions under CWA § 303(c). EPA approval/disapproval decisions will be made after adoption of water quality standards revisions and submittal to EPA, and will consider all pertinent evidence including information submitted to the Department during the rulemaking process.

COMMENTS ON PROPOSED REVISIONS TO R317-1-1

The proposal would add three new definitions to R317-1-1. The proposed definitions and our comments on each proposal are as follows:

- "Assimilative Capacity" means the difference between the numeric criteria and the concentration in the waterbody of interest.

Comment: The proposed definition is accurate on a general conceptual level but it may be useful to modify the definition to describe in more detail what is meant by the "concentration in the waterbody of interest." For example, it may be useful to revise the



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definition to recognize that assimilative capacity changes over time and from location to location within a waterbody. In addition, for antidegradation and discharge permitting purposes, it may be important to evaluate whether assimilative capacity is available not by comparing the criteria to *current* ambient conditions in the waterbody, but rather the ambient conditions that have been *authorized* during critical ambient flow conditions (i.e., if point sources were discharging at their design capacity and authorized effluent quality concentrations). We recommend that the Department consider whether it would be useful to adopt a more specific definition.

- "Existing Uses" means those uses actually obtained in a water body on or after November 28, 1975, whether or not they are included in the water quality standards.

Comment: The word "obtained" should be changed to "attained." Otherwise, the proposed definition is identical to the definition of "existing uses" in the EPA water quality standards regulation at 40 CFR Section 131.3(e). We recommend correction of this apparent typographical error and adoption of a definition that is identical to the federal definition.

- "Great Salt Lake impounded wetland" means wetland ponds which have been formed by dikes or berms to control and retain the flow of freshwater sources in the immediate proximity of Great Salt Lake.

Comment: This term is used in the proposed footnote 2a to Table 2.14.2, which would revise the dissolved oxygen and pH criteria applicable to Great Salt Lake impounded wetlands. We support adoption of the definition.

COMMENTS ON PROPOSED REVISIONS TO R317-2

Proposed Revisions to R317-2-3 Antidegradation Policy

- **R317-2-3.5(b)(5).** The proposal is to delete this provision and eliminate the de minimis water quality test in determining whether a Level II antidegradation review is required.

Comment: As discussed in our September 30, 2009 action letter (p. 15), this proposed change would resolve the issue that necessitated the EPA disapproval action. We believe adoption of this change would result in a more effective and defensible antidegradation review program, and we support adoption of the proposal.

- **R317-2-3.5(b)(1).** This provision would be revised as follows:

b. An Anti-degradation Level II review is not required where any of the following conditions apply:

1. Water quality will not be lowered by the proposed activity. ~~e.g., For example,~~ a UPDES permit is being renewed and the proposed effluent concentration value and pollutant loading is equal to or less than the existing ~~effluent concentrations value and pollutant loading~~ permitted concentrations and corresponding pollutant loading. If waste loads are not defined in an existing permit, the design capacity of the facility, of both concentrations and loads, will be used to determine whether a proposed project lowers water quality.

Comment: We have several comments about situations where a renewal permit (for an existing discharge) is to be issued and there is no proposal to increase the design capacity in terms of flow. In such situations, we have concerns about the approach that will be followed if, for one or more parameters, the renewal permit will include water quality-based effluent limits for the first time. This would be a possibility, for example, where data now support a reasonable potential finding (either because sufficient data were not previously available, or because effluent quality has worsened), or for parameters where new ambient numeric criteria have been adopted for the first time. In these situations, the proposed language focuses on design capacity as a basis for deciding whether degradation would be authorized. The proposal is to specify that: “the design capacity of the facility, of both concentrations and loads, will be used to determine whether a proposed project lowers water quality.”

One comment is that it is not clear how the design capacity in terms of concentration will be determined for parameters where waste loads are not defined in the current permit.

A second comment is that if existing (actual) concentrations and loads being discharged by the facility are less than the concentrations and loads to be authorized in the renewal permit, there would be a basis for concluding that the permit authorizes degradation. For example:

- For parameters where data now support a reasonable potential finding (either because sufficient data were not previously available, or because effluent quality has worsened) effluent limits based on full consumption of the remaining assimilative capacity could result in substantial additional degradation of ambient water quality (e.g., if the trend toward higher effluent concentrations continues).
- For parameters where new ambient numeric criteria have been adopted for the first time, it is possible that alternatives such as treatment process changes, pollution prevention or raw material substitution have not been evaluated, and

there may be less-degrading alternatives that should be evaluated. By-passing the Level II antidegradation review for these parameters could result in a missed opportunity to minimize the water quality effects of the discharge and protect remaining assimilative capacity.

We recommend that the Division give further consideration to situations where a renewal permit will include water quality-based effluent limits for the first time. One way to avoid authorizing degradation would be to calculate such limits based on existing (actual) concentrations and loads. The rationale would be that, if the new effluent limits require existing concentrations and loads to be maintained, then the new limits would not authorize degradation and remaining assimilative capacity would be maintained and protected. The discharger could accept the effluent limits based on existing concentrations and loads, or choose to do a Level II review.

An alternative that we submit for consideration is to replace the proposed language with the following:

“For parameters where effluent limits are to be included in a renewal permit for the first time, a Level II antidegradation review is not required if the new effluent limits are equal to or less than existing (actual) effluent concentrations and loads, considering the expected degree of effluent variability.”

- **R317-2-3.5(f).** The proposal is to add a new provision requiring development of implementation procedures:

The Executive Secretary shall establish reasonable protocols and guidelines (1) for completing technical, social, and economic need demonstrations, (2) for review and determination of adequacy of Level II ADRs and (3) for determination of additional treatment requirements. Protocols and guidelines will consider federal guidance and will include input from local governments, the regulated community, and the general public. The Executive Secretary will inform the Water Quality Board of any protocols or guidelines that are developed.

Comment: We agree that it would be useful to develop additional antidegradation implementation procedures for Category 1, Category 2, and Category 3 waters. We support adoption of this proposed revision.

Proposed Revisions to R317-2-13 Classification of Waters of the State

- **R317-2-13.2(a)** Lower Colorado River Basin, Virgin River Drainage. For the North Fork of the Virgin River and tributaries, the proposal is to change the recreation use designation from 2B to 2A.

Comment: This proposal would result in a more stringent recreation use designation. We support adoption of the proposal if it would result in a use designation that better represents the frequency of recreation uses in the affected waters consistent with the definition of Class 2A waters.

Proposed Revisions to R317-2-14 Numeric Criteria

- **Table 2-14-1 - Inorganics.** The proposal would specify that the ambient water supply numeric criteria for bromate, chlorite, fluoride, and nitrate are expressed as the dissolved fraction.

Comment: The Division has not provided supporting information for this proposed revision. Generally, it is more appropriate to express water supply numeric criteria as total, to better represent the total amount of human exposure. Unless the Division has supporting information that the dissolved fraction would be protective of human health, we recommend withdrawal of this proposal. If these chemicals do not form insoluble complexes, there may be no difference between total and dissolved ambient concentrations. It would be helpful to evaluate and present ambient data comparing total and dissolved concentrations for these parameters. Such a comparison would provide a basis for determining whether expressing the ambient criteria as dissolved concentrations would pose a risk to human health (i.e., whether human health risk would be under estimated using the soluble data).

- **Table 2-14-1 - Site-Specific Standards for Total Dissolved Solids.** The proposal includes the following changes:

Muddy Creek from confluence with Fremont River to confluence with ~~Quit~~chupah Ivie Creek: 5,800 mg/l.

Price River and tributaries from confluence with Green River to confluence with ~~Soldier~~ Coal Creek: 3,000 mg/l;

Muddy Creek Comment: The rationale for revising the description of the Muddy Creek segment is that Quitchupah Creek does not flow directly into Muddy Creek, but rather it flows into Ivie Creek. Ivie Creek then flows into Muddy Creek. We support this correction to the segment description.

Price River Comment: The rationale for enlarging the segment of the Price River is that under the current segmentation, there is a Price River segment (between Soldier Creek and Coal Creek) with no site-specific standard sandwiched between two segments that have site-specific standards. This results in three adjacent segments (from downstream to upstream) with TDS standards of 3,000 mg/L, 1,200 mg/L, and 1,700 mg/L, respectively. The Division has proposed enlarging the most downstream segment to eliminate the middle segment. The standard for the middle segment would increase from 1,200 mg/L to 3,000 mg/L. However, no water quality data are presented by the Division and it is not clear that 3,000 mg/L is representative of the highest attainable condition (i.e., the most

protective concentration) in the middle segment. Issues that need to be addressed in a technical rationale include (1) what are the existing concentrations in the middle segment, (2) whether existing conditions are the result of natural or human-induced sources, (3) whether it is feasible to reduce any human-induced sources, (4) what site-specific standards would best protect the highest attainable water quality condition including spatial and temporal variability. These questions are not addressed in the supporting rationale that was made available for public review. Accordingly, we do not support adoption of the proposed revision, and we recommend that the Division withdraw its Price River proposal. If a site-specific TDS standard of 3,000 mg/L accurately describes the highest attainable TDS concentration in the middle segment, the Division should prepare a technically defensible supporting rationale, and provide it for public review as part of a future rulemaking action.

- **Table 2-14-2 – pH and Dissolved Oxygen.** The proposal is to add a footnote 2a:

2a) These criteria are not applicable to Great Salt Lake impounded wetlands. Surface water in these wetlands shall be protected from changes in pH and dissolved oxygen that create significant adverse impacts to the existing beneficial uses.

Comment: We support adoption of the proposal based on our review of the Division's supporting rationale. In addition, we believe the proposed approach is consistent with federal requirements to adopt water quality criteria that protect designated uses. See 40 CFR Section 131.11. For wetlands, it is common practice nationally for States to rely on narrative criteria for pH and dissolved oxygen because of the site-specific factors that must be considered in deriving numeric criteria that accurately reflect expected and attainable conditions. Further, Section 131.11(b) of the water quality standards regulation acknowledges that there are situations where States have discretion to rely on narrative criteria for the protection of designated uses.

However, it should be recognized that protection of designated uses with a narrative criteria approach is challenging. For such an approach to be demonstrably consistent with the requirement to establish criteria that protect designated uses, it will be important to complete the development of implementation procedures as discussed in the draft report *Development Of An Assessment Framework For Impounded Wetlands Of Great Salt Lake* (Utah DEQ, November 2009). Implementation procedures are needed to guide assessments pursuant to CWA § 303(d), and also development of water quality-based effluent limits pursuant to CWA § 402. Whereas permitting procedures are especially important for preventing impairments, assessment procedures are especially important for identifying impaired conditions, so that water quality problems can be corrected. Completing the development of such methods, therefore, is important to ensure that implementation decisions based on narrative criteria are scientifically sound and adequately protective of designated uses.

In addition, in recognition of concerns which have been raised regarding nutrient enrichment and algal response in Great Salt Lake impounded wetlands, we submit that development and adoption of defensible and appropriate numeric criteria to control algal growth should also be a priority. Compared to the numeric criteria for pH and dissolved oxygen that are proposed for deletion, such criteria would provide more defensible and useful regulatory tools for attaining and maintaining designated uses. Development and adoption of such numeric criteria is important for: (1) preventing impairment of impounded wetlands that are relatively undisturbed (by supporting development of protective effluent limits), and (2) restoring wetlands that are already degraded.

Accordingly, although we support the proposed narrative criteria approach for pH and dissolved oxygen, we recommend that the Division should:

- (1) continue its efforts to develop an assessment framework for Great Salt Lake impounded wetlands;
- (2) develop a detailed work plan for public review that includes a timeline and interim milestones; and
- (3) commit to developing and adopting defensible and appropriate numeric criteria to control algal growth in Great Salt Lake impounded wetlands (i.e., adoption of numeric criteria into Utah water quality standards).

Thanks very much for the opportunity to provide comments and recommendations regarding the proposed revisions to Utah water quality standards. If there are questions concerning our comments, the most knowledgeable person on my staff is David Moon and he can be reached at (303) 312-6833.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Hamilton". The signature is fluid and cursive, with a large initial "K" and "H".

Karen Hamilton, Chief
Water Quality Unit